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AMSAT NEWS SERVICE SPECIAL BULLETIN
ANS-004

SB SAT @ AMSAT $ANS-004.01
ANS-004 ANS Special Bulletin ARISSat-1/KEDR Goes Silent

AMSAT News Service Bulletin 004.01
>From AMSAT HQ SILVER SPRING, MD.
January 4, 2012
To All RADIO AMATEURS
BID: $ANS-004.01

Reception reports indicate that ARISSat-1/KEDR has stopped transmitting on Wednesday, January 4, 2012. The last full telemetry captured and reported to the ARISSatTLM web site at 06:02:14 UTC on January 4 were received from ground stations as the satellite passed over Japan.

See: http://www.arissattlm.org/live (full telemetry display)
See: http://www.arissattlm.org/mobile (condensed telemetry)

Telemetry reports showed that the temperature aboard ARISSat-1/KEDR had been rising as atmospheric drag began to affect the satellite. Final temperatures received via ARISSatTLM reported this data:

IHU	75 ° C / 167.0 ° F
PSU	76 ° C / 168.8 ° F
RF	88 ° C / 190.4 ° F
Control Panel	61 ° C / 141.8 ° F
Experiment	64 ° C / 147.2 ° F

Stations receiving telemetry from ARISSat-1 at any time over the last few months, please forward all of your .CSV telemetry files to telemetry AT arissattlm.org.

Konstantin, RN3ZF sent a reception report of his copy of the 0842 UTC pass that, "the telemetry was absent, voice messages were not legible, very silent and interrupted. Most likely, I saw last minutes in the life of the satellite."

Dee, NB2F reported, "Nothing heard from ARISSat-1/KEDR on any frequency during the first USA pass at 16:00 UTC, January 4."

ARISSat-1/KEDR was deployed from the International Space Station on August 3, 2011 during during EVA-29 on by Cosmonaut/Flight Engineers Sergei Volkov and Alexander Samokutyaev.

The satellite carried a student experiment from Kursk State University in Russia which measured atmospheric density. Students from around the world provided the voices for the FM voice announcements.

The amateur radio payload aboard ARISSat-1/KEDR achieved many "firsts" for amateur radio in space:

+ First flight test of AMSAT Software Defined Transponder which transmitted simultaneous:

  - FM voice downlink cycling between student messages, spoken

telemetry and SSTV from cameras on the spaceframe.

- 16KHz bandwith linear transponder,

- CW beacon with telemetry and callsigns of radio amateurs noting their significant contributions to amateur radio in space.

- Robust, forward error corrected 1K rate BPSK downlink with satellite telemetry and Kursk experiment telemetry.

+ Development and release of the ARISSatTLM software for PC and Mac platforms enabled amateur stations worldwide with reliable reception of the BPSK telemetry, CW telemetry, display on the station's computer, and automatic upload of received data via the internet to the ARISSat engineering team.

+ A new Integrated Housekeeping Unit was developed and successfully flown.

+ A new Power Management System was developed and successfully flown.

AMSAT President Barry Baines, WD4ASW noted, ARISSat-1/KEDR marked a new type of satellite which has captured the attention of the national space agencies around the world for the unique educational opportunity we have been able to design, launch, and operate. By designing an educational mission aligned with NASA's Science, Technology, Engineering, and Mathematics goals amateur radio operators around the world have been able enjoy a new satellite in orbit."

ARISSat-1/KEDR Project Manager, Gould Smith, WA4SXM said, "Dozens of amateur radio volunteers, AMSAT, ARRL, NASA, and Energia teamed up for this successful mission to bring you the most unique and innovative amateur radio satellite mission. Congratulations to all who made ARISSat-1 successful!"

[ANS thanks the ARISSat-1/KEDR Team for the above information]

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